

Appl. No.: 10/632,980  
Amdt. Dated: 4 December 2004  
Reply to Office Action mailed 08/04/2004

Amendments to the Claims:

Please amend the following claims as indicated. This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended) A brake pad assembly for a bicycle for urging brake pads ~~a brake shoe~~ against the sidewall rim of the bicycle wheel rim, the combination comprising:

an elongate support member;

longitudinal extending brake pad means affixed to said support member, said brake pad means having unitary multiple brake pads in planar sequential abutting relationship with selected ones of said brake pads composed of different braking compounds for imparting a different braking characteristic to said brake pad means;

said brake pad means having a closed first end and, a truncated second end for slidably and sequentially receiving said multiple brake pads in said brake pad means along an axis parallel to the contact surface of said sidewall;

said brake pad means and said brake pads configured for interchangeability of said brake pads within said brake pad means with said brake pads having a bicycle wheel rim engaging surface generally coplanar with each other; and

closure means for complementary mating with said truncated end for securing said brake pads within said brake pad means.

2. (currently amended) The brake pad assembly according to Claim 1 wherein said closure means includes is comprised of an end cap configured generally identical to said first end with locking means for coaxing engagement with said truncated end.

3. (currently amended) The brake pad assembly according to Claim 2 wherein said brake pad means has a longitudinal curvature substantially in conformance with the radius of curvature of said sidewall of the bicycle wheel rim and said brake pads are aligned relative to one another and relative to said brake pad means.

4. (currently amended) The brake pad assembly according to Claim 2 wherein each of said brake pads is comprised of first and second portions defined separated by an indentation along

each side of encompassing said brake pad, said first portion captively received mounted in said brake pad means and said second portion extending from said brake pad means and having a braking surface for coplanar contact with the sidewall of said bicycle wheel rim.

5. (currently amended) The brake pad assembly according to Claim 4 wherein said first portion includes a strengthening agent for preventing operational pull out of said brake pads from said brake pad means and said indentation is comprised of a compound for imparting strength and resiliency to said brake pad and said second portion is comprised of a compound for imparting a particular braking characteristic to said brake pad.

6. (currently amended) The brake pad assembly according to Claim 4 wherein said truncated brake pad means and said end cap include includes longitudinally and circumferentially extending capture means for interaction with said indentation in said brake pads pad to slidably receive said first portion of each said brake pad securely within said brake pad means.

7. (currently amended) The brake pad assembly according to Claim 5 wherein said capture means includes inwardly projecting shoulders in said brake pad means and said locking means includes recess means in at least one of said brake pads and a coacting locking pin, said shoulders, said recess, said end cap and said locking means pin-configured for mating coacting engagement to fixedly lock said individual brake pads within said brake pad means.

8. (currently amended) The brake pad assembly according to Claim 1 wherein said locking means includes in combination

indentations in said brake pads and mating inwardly projecting shoulders in said brake pad means, said brake pad indentations mating with said shoulders to slidably receive said brake pads along said shoulders;

a transverse recess in at least one of said brake pads; and  
an end cap complementary mating with said truncated end and having an associated locking pin cooperatively received by said end cap, said truncated end and said recess whereby said brake pads are captured within said brake pad means.

9. (currently amended) A brake pad assembly for a bicycle for urging a brake shoe against the sidewall rim of the bicycle wheel, the combination comprising:

longitudinally extending brake pad means having a plurality of brake pads positioned in sequential abutting arrangement therein along an axis parallel to the contact surface of said

sidewall, said brake pads configured for interchangeability within said brake shoe and selected ones of said brake pads composed of a different braking compound for imparting a different braking characteristic to said brake pad assembly;

    said brake pad means having one end closed and the other a truncated open end for receiving said brake pads;

    complementary locking means for mating to said truncated end to thereby secure said pads in abutting arrangement within said brake pad means;

    said brake pads having an overlapping end and an under-lapping end with adjacent pads mated with said overlapping end over said under-lapping end; and

    said overlapping end bearing down on said under-lapping end of an adjacent pad in response to wheel rim movement pressure to thereby prevent pull out of said pads from said brake pad means.

10. (currently amended) The brake pad assembly according to Claim 9, said locking means comprising:

    an end cap configured for mating to said truncated end whereby said plurality of brake pads are captured within said brake pad means in alignment relative to one another and to said brake shoe;

    a recess in at least one of said brake pads; and

    a locking pin cooperatively received by said end cap, said truncated end and said recess whereby said brake pads are secured within said brake pad means.

11. (currently amended) The brake pad assembly according to Claim 9 wherein said brake pad means has a longitudinal curvature substantially in conformance with the radius of curvature of the bicycle wheel rim.

12. (currently amended) The brake pad assembly according to Claim 9 wherein each of said plurality of brake pads is comprised of a top portion and a bottom portion, the portions defined by an undercut indentation indentations in said brake pads, and said brake shoe and said end cap including circumferentially includes inwardly projecting shoulder means for mating with said indentations, said brake pads slidably received along said shoulder means with said bottom portion extending from said brake shoe and having a braking surface for planar contact with said bicycle wheel rim.

13. (previously presented) The brake pad assembly according to Claim 12 wherein said top portion and the associated undercut indentation is formed of a compound to provide resistance to brake pad pull out due to wheel rim moving forces and said second pad portion is formed of a compound to provide a desired breaking characteristic.

14. (previously presented) The brake pad assembly according to Claim 10 wherein the outer shell of said brake pad means includes exposed corrugated indentations for rigidity and strength.

15. (currently amended) A brake shoe assembly for a bicycle urging a brake shoe against the sidewall rim of the bicycle wheel, the assembly comprising:

an elongate longitudinally extending brake shoe having a truncated end for receiving a plurality of unitary brake pads in abutting arrangement sequentially positioned within said brake shoe along an axis parallel to the contact surface of said sidewall, each having a rim engaging braking surface generally coplanar with the other and said sidewall rim, said brake pads composed of pre-selected braking compounds for imparting a variety of braking characteristics to said brake pad assembly, said brake shoe and said brake pads configured for slidable interchangeability of said brake pads within said brake shoe;

each of said brake pads comprised of a top portion and a bottom portion defined by an indentation undercut from said top portion and encompassing each brake pad on at least both sides thereof, said brake shoe including circumferentially inwardly projecting shoulders configured for mating with said indentation whereby said brake pads are slidably received along said shoulders, said bottom portion extending from said brake shoe and having a braking surface for contact with said bicycle wheel rim; and

end cap closure means having circumferentially inwardly projecting shoulders for complementary mating with said truncated end to secure said brake pads within said brake shoe aligned to each another and to said brake shoe.

16. (previously presented) The brake pad assembly according to Claim 15 wherein said brake pads have an overlapping end and an under-lapping end with adjacent pads mated with said overlapping end over said under-lapping end, and said overlapping end bears down on said under-lapping end of the adjacent pads preventing pull out of said pads from wheel rim movement pressure.

17. (currently amended) The brake pad assembly according to Claim 15 wherein said locking means includes a transverse comprises a recess in at least one of said brake pads, an said end cap for closure of said truncated end and a locking pin, said recess, said truncated end and said end cap configured for receiving said locking pin to fixedly position, capture and retain said brake pad portions within said brake shoe.

18. (currently amended) The brake pad assembly according to Claim 17 wherein said brake shoe has longitudinal curvature substantially in conformance with the radius of the bicycle wheel rim and each of said brake pads has a rim engaging surface generally coplanar with the other and with said sidewall of the bicycle wheek rim.

19. (currently amended) A method for selectively changing braking characteristics of a brake pad assembly for a bicycle comprising:

providing a longitudinal extending brake shoe having a curvature in conformance with the radius of curvature of the bicycle wheel rim and including a truncated end for urging said brake pad assembly against the sidewall of the bicycle wheel rim;

providing multiple unitary brake pads in sequential abutting relationship in said brake shoe with selected ones of said brake pads composed of different braking compounds for imparting a different braking characteristic to said brake pad assembly;

slidably inserting selected brake pads in sequential abutting relationship in said brake shoe pad means through said truncated end along an axis parallel to the contact surface of said sidewall;

slidably interchanging said brake pads as desired to effect different braking characteristics of said brake pad assembly; and

providing end cap closure means for complementary with said brake shoe for mating with said truncated end and for securing said brake pads within said brake shoe.

20. (previously presented) The method of claim 19 wherein at least one of said brake pads has a top portion formed of a compound to provide resistance to brake pad pull out due to wheel rim moving forces and a bottom portion formed of a compound to provide a desired breaking characteristic.